

# Work Order ID 85450

**\*85450\***

Page 1

June-08-12 10:08:11 AM

Item ID: D3405-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Lug Assembly

Start Date: 08/06/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12/06/08 Tooling:

Date:

Run Start **\*NR1\***

QC:

Date: SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3405	Rev B					(14)			
100		0.00							
<b>*100*</b>	FLOW WATER JET								
Waterjet	Memo	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3405								
304, 125	Dwg Rev: <u>B</u>								
	Prog Rev: <u>B</u>								
	2-Deburr if necessary								
110	QC2- Inspect parts off machine FAI/FAIB	0.00							
<b>*110*</b>									
QC	Memo	0.00							
Quality Control									
120	QC8- Inspect parts - second check	0.00							
<b>*120*</b>									
QC	Memo	0.00							
Quality Control									

B12-6-13

B12-6-13

8-7/06/14

(X18)

**Work Order ID 85450**

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**\*85450\***

Page 2

Item ID: D3405-041

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**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

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**\*12\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan: \_\_\_\_\_

Date: \_\_\_\_\_

Tooling: \_\_\_\_\_

Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_

Date: \_\_\_\_\_

SPC (Y/N): \_\_\_\_\_

Date: \_\_\_\_\_

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	NC BRAKE	0.00							
<b>*130*</b>									
Brake NC	Memo	0.00							
Brake NC	1-Deburr								
	2-Form using DT8204 as per Dwg D3405								
	3- use DT9681 to check if correct forming								
140	QC5- Inspect part completeness to step on W/O	0.00							
<b>*140*</b>									
QC	Memo	0.00							
Quality Control									
150	Large Fab	0.00							
<b>*150*</b>									
Large Fab	Memo	0.00							
Large Fab	Weld as per Dwg D3405 use DT8484								
	Identify as D3405-041								

NCR: Yes / No

**WORK ORDER NON-CONFORMANCE / UPDATE**

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____				<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		<b>AGAINST DEPARTMENT/PROCESS</b>  <div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/>            Machining <input type="checkbox"/>            Thermoforming <input type="checkbox"/>            Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/>            Small Fab <input type="checkbox"/>            Finishing <input type="checkbox"/>            Composite <input type="checkbox"/> </div> <div>           Prod. Eng. Coord. <input type="checkbox"/>            Rec/Store/Packaging <input type="checkbox"/>            Supplier <input type="checkbox"/>            Other <input type="checkbox"/> </div> <div>           Engineering Quality <input type="checkbox"/>  <input type="checkbox"/>  <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data											
Equip/Tooling											
Operator											
Material											
Offset/Setup											
Other											
Process											
Supplier											
Training											
Unauthorized											

FAULT CATEGORY												
<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many			<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing			<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material		<input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other _____ _____ _____	

# Work Order ID 85450

**\*85450\***

Page 3

June-08-12 10:08:11 AM

Item ID: D3405-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Item Name: Lug Assembly

Stop **\*NS2\***

Start Date: 08/06/2012 Start Qty: 12.00

**\*12\***

Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC9- Inspect visual per QSI004- Fusion Welds	0.00							
<b>*160*</b>									
QC	Memo	0.00				14			PL12.07.16
Quality Control									
170	QC5- Inspect part completeness to step on W/O	0.00							
<b>*170*</b>									
QC	Memo	0.00							
Quality Control									
180	White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel	0.00							
<b>*180*</b>									
Powdercoat	Memo	0.00							
Powder Coating	START TIME: 2:30 OVEN TEMPERATURE: 400 °F FINISH TIME: 3:00								

W12/841

714

14X4

12/07/16

# Work Order ID 85450

**\*85450\***

Page 4

June-08-12 10:08:11 AM

Item ID: D3405-041

Accept

**\*N900040100\***

Setup Start **\*NS1\***

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Cust Item ID:

Required Date: 22/06/2012 Req'd Qty: 12.00

**\*12\***

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start **\*NR1\***

QC:

Date:

SPC (Y/N):

Date:

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

190 QC3- Inspect Part Finish

0.00

**\*190\***

QC Memo

0.00

Quality Control

14  $\phi$  12-7-16

200 Identify as per dwg & Stock Location: 478

0.00

**\*200\***

Packaging Memo

0.00

Packaging

14 12/8/17

210 QC21- Final Inspection - Work Order Release

0.00

**\*210\***

QC Memo

0.00

Quality Control

12/1/17

MF 12-07-17

# Picklist Print

June-08-12 10:08:14 AM

Page 1

Work Order ID: 85450

\*85450\*

Parent Item: D3405-041

\*D3405-041\*

Parent Item Name: Lug Assembly

Start Date: 08/06/2012

Required Date: 22/06/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP A05.09.01New issueKJ/JLM  
IPP B 09.01.28 rev.B drawing EC + verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3404-1		Manufactured	No			100	Each	26.0000	1	12			

\*D3404-1\*

GHW Lug

\*\*

12 12-7-16

85/100 x 4

## Location

WA

## Loc Qty

26

26

## Loc Code

83879

10

M304S11GA

Purchased

No

150

sf

109.2900

0.154

1.945263

2

\*M304S11GA\*

304/316 0.125 Sheet

\*\*

18/2-6-13

## Location

MAT020

121380

121780

## Loc Qty

109.29

24.9

84.39

## Loc Code

121790

14

NCR: Yes / No

## WORK ORDER NON-CONFORMANCE / UPDATE

DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order: _____  Part No. _____  NCR No. _____	<b>DISPOSITION</b>  Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	<b>AGAINST DEPARTMENT/PROCESS</b>  <table style="width:100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>																
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unauthorized <input type="checkbox"/>									

### FAULT CATEGORY

<b>Landing Gear</b> <input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<b>Hardware</b> <input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong  <b>Drill Holes</b> <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<b>General</b> <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material  <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled  <input type="checkbox"/> Other _____ _____ _____
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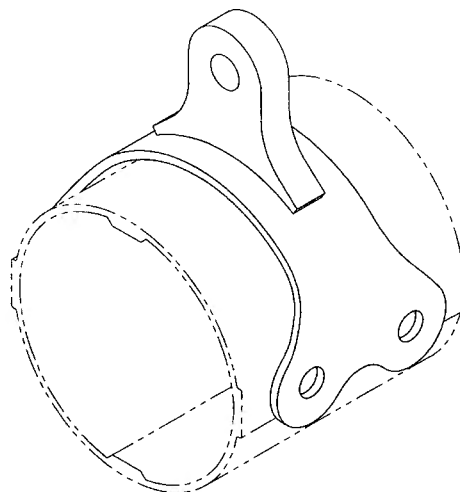


ITEM No.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D3405-041	LUG ASSEMBLY
2		X	D3405-043	LUG ASSEMBLY
11	1	1	D3404-1	GHW LUG
12	1		D3405-1	GHW BRACKET
13		1	D3405-3	GHW BRACKET

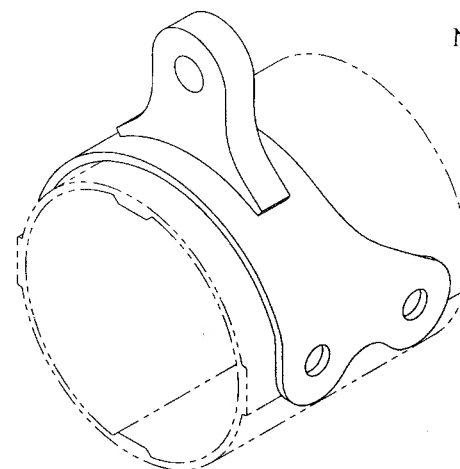
B

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. PS450 MLJ

12/06/08



**D3405-041 LUG ASSEMBLY**  
(SKID TUBE SECTION SHOWN  
FOR REF ONLY)



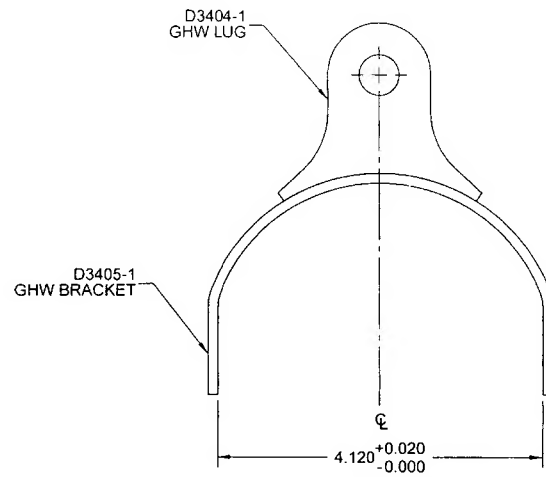
**D3405-043 LUG ASSEMBLY**  
(SKID TUBE SECTION SHOWN  
FOR REF ONLY)

**RELEASED**  
08/12/18 MJS

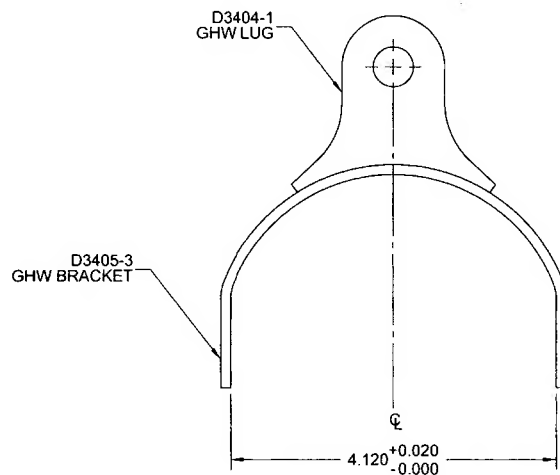
**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: POWDER COAT ASSEMBLY WHITE (4.3.5.2) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3405-041" USING FINE POINT PERMANENT INK MARKER  
IDENTIFY WITH DART P/N "D3405-043" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: -041, 0.85 lbs  
-043, 0.87 lbs

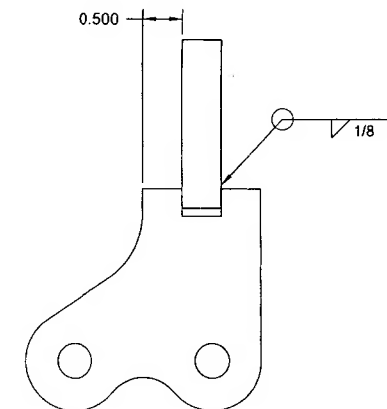
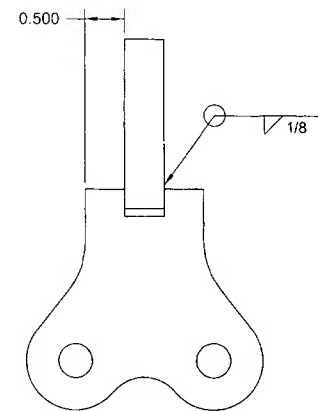
9	DRAWING REDRAWN IN SOLIDWORKS WITH CURRENT STANDARDS AND TRANSFERRED TO "B" SIZE BORDER. FLAT PATTERNS FOR -1 & -3 INCREASED IN LENGTH TO PREVENT FOULING AT INSTL (SEE PAR198). SHEETS 3 & 4 ZONE A6 4.120 DIM WAS 4.100.		AJS	08.09.19
A	NEW ISSUE		PH	05.03.08
REV.	DESCRIPTION		BY	DATE
DESIGN	PH	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA		
DRAWN	AJS			
CHECKED		DRAWING NO.	REV. B	
MFG. APPR.		D3405	SHEET 1 OF 4	
APPROVED		TITLE	SCALE	
DE APPR.		GHW LUG ASSEMBLY	NTS	
DATE	08.09.19	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		



**D3405-041 LUG ASSEMBLY**



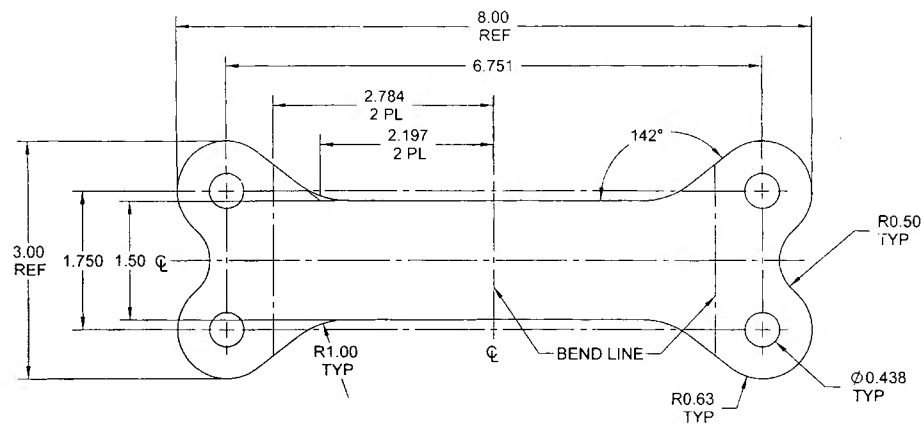
**D3405-043 LUG ASSEMBLY**



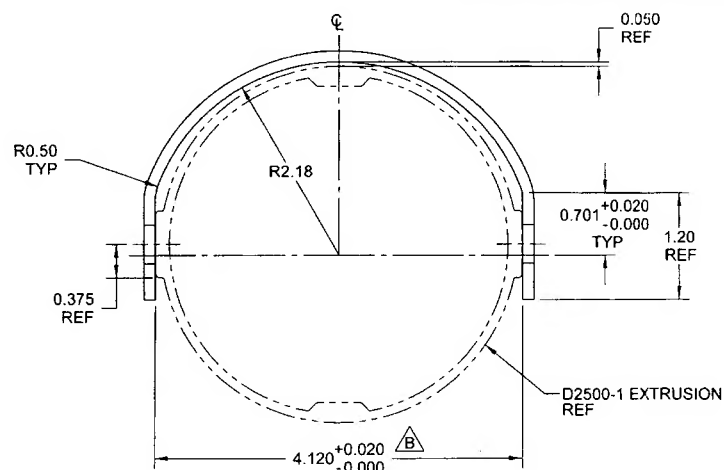
85450

**RELEASED**  
06/12/18

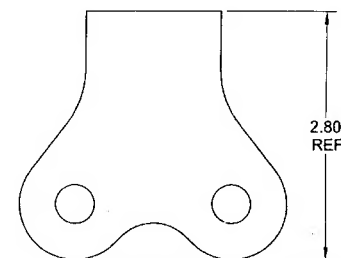
DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 2 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	NTS
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**D3405-1F GHW BRACKET FLAT PATTERN**



**D3405-1 GHW BRACKET**  
(MAKE FROM D3405-1F)



SIDE VIEW FOR REF ONLY

**NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET, 11 GAUGE (0.125 THICK)  
PER MIL-S-5059 (ANNEALED) 2B FINISH OR AMS 5513/5524  
REF. DART SPEC. M304S11GA
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: N/A





DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 3 OF 4
APPROVED		TITLE	SCALE
DE APPR.		GHW LUG ASSEMBLY	NTS
DATE	08.09.19	COPYRIGHT © 2006 BY DART AEROSPACE LTD	
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**RELEASED**  
08/09/19



RELEASED  
08/12/18 NW

- 2) FINISH: N/A  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) UNITS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: N/A  
7) WEIGHT: N/A

DESIGN	PH	<b>DART AEROSPACE LTD</b>	
DRAWN	AYS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3405	SHEET 4 OF 4
APPROVED		TITLE	SCALE
DE APPR.		<b>GHW LUG ASSEMBLY</b>	NTS
DATE	08.09.19	COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED TO THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	